

Commonwealth of Kentucky
Natural Resources and Environmental Protection Cabinet
Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, Kentucky 40601
(502) 573-3382

AIR QUALITY PERMIT

Permittee Name: Freudenberg Nonwovens Limited Partnership
Mailing Address: ATTN: Mark A. Richardson, Environmental Chemist
221 Jackson Street
Lowell, Massachusetts 01852

is authorized to operate a Nonwoven Textiles manufacturing plant at

Facility Name: Freudenberg Nonwovens Limited Partnership
Mailing Address: ATTN: Hector Geist, Plant Manager
2975 Pembroke Road
Hopkinsville, Kentucky 42440

Facility Location: Same as above

PERMIT TYPE: Federally-Enforceable Title V
Review Type: Title V
Permit Number: V-97-008
Log Number: F073
Facility ID #: 072-0700-0019
FINDS Number: KYD068330836
SIC Code: 2297

Region: Paducah
County: Christian

Issuance Date: August , 1997
Expiration Date: August , 2002

John E. Hornback, Director
Division for Air Quality

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SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application which was determined to be administratively and technically complete, the Kentucky Division for Air Quality hereby authorizes the operation of the processing and air pollution control equipment described herein in accordance with the plans, specifications, permit application, and other information submitted by the permittee. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, alter, or modify any affected facilities without first submitting a complete application and receiving a permit for the planned activity from the permitting authority.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by this Cabinet or any other federal, state, or local agency.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

B1	(16B)	One (1) Cleaver Brooks 500HP Fire Tube Boiler -
		Primary fuel: Natural Gas
		Backup fuel: Fuel Oil #2
		Maximum Rated capacity: 20.925 mmBTU/hr

APPLICABLE REGULATIONS:

Regulation 401 KAR 59:015, New indirect fired heat exchangers, applies to the particulate matter and sulfur dioxide emissions from the combustion of natural gas and fuel oil.

1. Operating Limitations:

None

2. Emission Limitations:

1. Pursuant to Regulation 401 KAR 59:015, Section 4.(1)(c), emissions of particulate matter from the combustion of either natural gas or fuel oil shall not exceed 0.47 lb/mmBTU (9.85 lb/hr).
2. Pursuant to Regulation 401 KAR 59:015, Section 4.(2), the opacity of visible emissions from the combustion of either natural gas or fuel oil shall not exceed 20%.
3. Pursuant to Regulation 401 KAR 59:015, Section 5.(1)(c)1., emissions of sulfur dioxide from the combustion of either natural gas or fuel oil #2 shall not exceed 2.22 lb/mmBTU (46.36 lb/hr).

Compliance Demonstration Method:

- a. Hourly Mass Emission Rate =
$$\left[\text{Monthly gas or fuel oil consumption rate} \times \text{Emission factor listed in Kentucky Emissions Inventory} / (\text{Hours of operation per month}) \right]$$
- b. Opacity Limit - No compliance demonstration is necessary while the boiler is fired with natural gas.
- c. Opacity Limit - During periods of boiler startup, shutdown or malfunction or during periods when the boiler is fired with fuel oil, the permittee shall determine compliance through maintenance of the records required by Item 4 under Specific Monitoring Requirements below.

3. Testing Requirements:

Pursuant to Regulations 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in Regulation 401 KAR 50:015 shall be conducted as required by the Division.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

B1 (16B) One (1) Cleaver Brooks 500HP Fire Tube Boiler (Continued)

4. Specific Monitoring Requirements:

The permittee shall monitor and maintain records of the following information:

1. The monthly fuel usage rate (cubic feet/month or gallons per month) for each of the fuel listed herein.
2. The monthly hours of operation (hours operated per month) of the boiler.
3. The sulfur content of each type of fuel burned. The sulfur content maybe determined by fuel sampling and analysis or by fuel supplier certification.
4. During periods of boiler startup, shutdown or malfunction or during periods when the boiler is fired with fuel oil, a daily (calendar day) log of the following information shall be kept:
 - i. Whether any air emissions were visible from the boiler stack.
 - ii. Whether the visible emission were normal for the process.
 - iii. The color of the emissions and whether the emissions were light or heavy.
 - iv. The cause of the abnormal visible emissions.
 - v. Any corrective actions taken.

5. Specific Recordkeeping Requirements:

See 4. Specific Monitoring Requirements above.

6. Specific Reporting Requirements:

None

7. Specific Control Equipment Operating Conditions:

None

8. State-Origin Requirements:

None

a. Operating Limitations:

None

b. Emission Limitations:

None

9. Alternate Operating Scenarios:

None

10. Compliance Schedule:

N/A

11. Compliance Certification Requirements:

N/A

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

K1 (2A, 2A, 5)	K1 Forming Set -	
	One (1) Three-Stage Drying Oven:	42 burners (natural gas fired, 0.2 mmBTU/hr total capacity)
	One (1) Spray Application System	
	Maximum production capacity:	2100 m ² /hr

APPLICABLE REGULATIONS:

1. Regulation 401 KAR 59:010, New process operations, applies to the particulate matter emissions.
2. Regulation 401 KAR 63:020, Potentially hazardous matter or toxic substances, applies to the formaldehyde emissions.

1. Operating Limitations:

None

2. Emission Limitations:

1. Pursuant to Regulation 401 KAR 59:010, Section 3.(2), emissions of particulate matter shall not exceed 2.34 lb/hr.
2. Pursuant to Regulation 401 KAR 59:010, Section 3.(1), the opacity of visible emissions shall not equal or exceed 20 percent.
3. See Group Requirements, Page 22.

Compliance Demonstration Method:

- a. Hourly Mass Emission Rate = [Monthly textile production rate x Emission factor listed in Kentucky Emissions Inventory / (Hours of operation per month)]
- b. Opacity Limit - During periods of normal operation, no compliance demonstration is necessary. During periods of startup, shutdown, or malfunction of the K1 Set, the permittee shall determine compliance through maintenance of the records required by Item 3 under Specific Monitoring Requirements below.

3. Testing Requirements:

Pursuant to Regulations 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in Regulation 401 KAR 50:015 shall be conducted as required by the Division.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

K1 (2A, 2A, 5) K1 Forming Set (Continued)

4. Specific Monitoring Requirements:

The permittee shall monitor and maintain records of the following parameters:

1. The monthly production rate and formulation of each type of textile produced at the K1 Set.
2. The monthly hours of operation (hours operated/month) of the K1 Set.
3. During periods of startup, shutdown or malfunction of the K1 Set, a daily (calendar day) log of the following information shall be kept:
 - i. Whether any air emissions were visible from the K1 Set stacks.
 - ii. Whether the visible emission were normal for the process.
 - iii. The color of the emissions and whether the emissions were light or heavy.
 - iv. The cause of the abnormal visible emissions.
 - v. Any corrective actions taken.

5. Specific Recordkeeping Requirements:

See 4. Specific Monitoring Requirements above.

6. Specific Reporting Requirements:

None

7. Specific Control Equipment Operating Conditions:

None

8. State-Origin Requirements:

None

a. Operating Limitations:

None

b. Emission Limitations:

None

9. Alternate Operating Scenarios:

None

10. Compliance Schedule:

N/A

11. Compliance Certification Requirements:

N/A

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

K2 (2) K2 Forming Set -
One (1) Multi-state Steam Can Drying System: Steam provided by the
Cleaver Brooks boiler

One (1) Spray Application System
Maximum production capacity: 2100 m²/hr

APPLICABLE REGULATIONS:

1. Regulation 401 KAR 59:010, New process operations, applies to the particulate matter emissions.
2. Regulation 401 KAR 63:020, Potentially hazardous matter or toxic substances, applies to the formaldehyde emissions.

1. Operating Limitations:

None

2. Emission Limitations:

1. Pursuant to Regulation 401 KAR 59:010, Section 3.(2), emissions of particulate matter shall not exceed 2.34 lb/hr.
2. Pursuant to Regulation 401 KAR 59:010, Section 3.(1), the opacity of visible emissions shall not equal or exceed 20 percent.
3. See Group Requirements, Page 22.

Compliance Demonstration Method:

- a. Hourly Mass Emission Rate = [Monthly textile production rate x Emission factor
listed in Kentucky Emissions Inventory / (Hours of
operation per month)]
- b. Opacity Limit - During periods of normal operation, no compliance demonstration is necessary. During periods of startup, shutdown, or malfunction of the K2 Set, the permittee shall determine compliance through maintenance of the records required by Item 3 under Specific Monitoring Requirements below.

3. Testing Requirements:

Pursuant to Regulations 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in Regulation 401 KAR 50:015 shall be conducted as required by the Division.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

K2 (2) K2 Forming Set (Continued)

4. Specific Monitoring Requirements:

The permittee shall monitor and maintain records of the following parameters:

1. The monthly production rate and formulation of each type of textile produced at the K2 Set.
2. The monthly hours of operation (hours operated/month) of the K2 Set.
3. During periods of startup, shutdown or malfunction of the K2 Set, a daily (calendar day) log of the following information shall be kept:
 - i. Whether any air emissions were visible from the K2 Set stack.
 - ii. Whether the visible emission were normal for the process.
 - iii. The color of the emissions and whether the emissions were light or heavy.
 - iv. The cause of the abnormal visible emissions.
 - v. Any corrective actions taken.

5. Specific Recordkeeping Requirements:

See 4. Specific Monitoring Requirements above.

6. Specific Reporting Requirements:

None

7. Specific Control Equipment Operating Conditions:

None

8. State-Origin Requirements:

None

a. Operating Limitations:

None

b. Emission Limitations:

None

9. Alternate Operating Scenarios:

None

10. Compliance Schedule:

N/A

11. Compliance Certification Requirements:

N/A

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

K3 (4)

K3 Forming Set

(Continued)

4. Specific Monitoring Requirements:

The permittee shall monitor and maintain records of the following parameters:

1. The monthly production rate and formulation of each type of textile produced at the K3 Set.
2. The monthly hours of operation (hours operated/month) of the K3 Set.
3. During periods of startup, shutdown or malfunction of the K3 Set, a daily (calendar day) log of the following information shall be kept:
 - i. Whether any air emissions were visible from the K3 Set stack.
 - ii. Whether the visible emission were normal for the process.
 - iii. The color of the emissions and whether the emissions were light or heavy.
 - iv. The cause of the abnormal visible emissions.
 - v. Any corrective actions taken.

5. Specific Recordkeeping Requirements:

See 4. Specific Monitoring Requirements above.

6. Specific Reporting Requirements:

None

7. Specific Control Equipment Operating Conditions:

None

8. State-Origin Requirements:

None

a. Operating Limitations:

None

b. Emission Limitations:

None

9. Alternate Operating Scenarios:

None

10. Compliance Schedule:

N/A

11. Compliance Certification Requirements:

N/A

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

K4 (7) K70 Fusible Set -
One (1) Continuous Extrusion/Laminator System
One (1) Delaminator
Maximum production capacity: 2100 m²/hr

APPLICABLE REGULATIONS:

Regulation 401 KAR 59:010, New process operations, applies to the particulate matter emissions.

1. <u>Operating Limits:</u>	None
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2. Emission Limitations:

1. Pursuant to Regulation 401 KAR 59:010, Section 3.(2), emissions of particulate matter shall not exceed 2.34 lb/hr.
2. Pursuant to Regulation 401 KAR 59:010, Section 3.(1), the opacity of visible emissions shall not equal or exceed 20 percent.

Compliance Demonstration Method:

- a. Hourly Mass Emission Rate = [Monthly textile production rate x Emission factor listed in Kentucky Emissions Inventory / (Hours of operation per month)]
- b. Opacity Limit - During periods of normal operation, no compliance demonstration is necessary. During periods of startup, shutdown, or malfunction of the K70 Set, the permittee shall determine compliance through maintenance of the records required by Item 3 under Specific Monitoring Requirements below.

3. Testing Requirements:

Pursuant to Regulations 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in Regulation 401 KAR 50:015 shall be conducted as required by the Division.

4. Specific Monitoring Requirements:

The permittee shall monitor and maintain records of the following parameters:

1. The monthly production rate and formulation of each type of textile produced at the K70 Set.
2. The monthly hours of operation (hours operated/month) of the K70 Set.
3. During periods of startup, shutdown or malfunction of the K70 Set, a daily (calendar day) log of the following information shall be kept:
 - i. Whether any air emissions were visible from the K70 Set stack.
 - ii. Whether the visible emission were normal for the process.
 - iii. The color of the emissions and whether the emissions were light or heavy.
 - iv. The cause of the abnormal visible emissions.
 - v. Any corrective actions taken.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

K4 (7)

K70 Fusible Set

(Continued)

5. Specific Recordkeeping Requirements:

See 4. Specific Monitoring Requirements above.

6. Specific Reporting Requirements:

None

7. Specific Control Equipment Operating Conditions:

None

8. State-Origin Requirements:

None

a. Operating Limitations:

None

b. Emission Limitations:

None

9. Alternate Operating Scenarios:

None

10. Compliance Schedule:

N/A

11. Compliance Certification Requirements:

N/A

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

K5 (6) K71 Powder Set -
Two (2) Unwinding Extruders
One (1) Powder Application System
One (1) Electric Oven
Maximum production capacity: 12,100 m²/hr

APPLICABLE REGULATIONS:

1. Regulation 401 KAR 59:010, New process operations, applies to the particulate matter emissions.
2. Regulation 401 KAR 63:020, Potentially hazardous matter or toxic substances, applies to the formaldehyde emissions.

1. Operating Limitations:

None

2. Emission Limitations:

1. Pursuant to Regulation 401 KAR 59:010, Section 3.(2), emissions of particulate matter shall not exceed 2.34 lb/hr.
2. Pursuant to Regulation 401 KAR 59:010, Section 3.(1), the opacity of visible emissions shall not equal or exceed 20 percent.
3. See Group Requirements, Page 22.

Compliance Demonstration Method:

- a. Hourly Mass Emission Rate = [Monthly textile production rate x Emission factor listed in Kentucky Emissions Inventory / (Hours of operation per month)]
- b. Opacity Limit - During periods of normal operation, no compliance demonstration is necessary. During periods of startup, shutdown, or malfunction of the K71 Set, the permittee shall determine compliance through maintenance of the records required by Item 3 under Specific Monitoring Requirements below.

3. Testing Requirements:

Pursuant to Regulations 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in Regulation 401 KAR 50:015 shall be conducted as required by the Division.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

K5 (6)

K71 Powder Set

(Continued)

4. Specific Monitoring Requirements:

The permittee shall monitor and maintain records of the following parameters:

1. The monthly production rate and formulation of each type of textile produced at the K71 Set.
2. The monthly hours of operation (hours operated/month) of the K71 Set.
3. During periods of startup, shutdown or malfunction of the K71 Set, a daily (calendar day) log of the following information shall be kept:
 - i. Whether any air emissions were visible from the K71 Set stack.
 - ii. Whether the visible emission were normal for the process.
 - iii. The color of the emissions and whether the emissions were light or heavy.
 - iv. The cause of the abnormal visible emissions.
 - v. Any corrective actions taken.

5. Specific Recordkeeping Requirements:

See 4. Specific Monitoring Requirements above.

6. Specific Reporting Requirements:

None

7. Specific Control Equipment Operating Conditions:

None

8. State-Origin Requirements:

None

a. Operating Limitations:

None

b. Emission Limitations:

None

9. Alternate Operating Scenarios:

None

10. Compliance Schedule:

N/A

11. Compliance Certification Requirements:

N/A

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

K6 (18)	K72 Fusible Paste Set -	Equipped with a fiberglass fabric filter or equivalent
	One (1) Drying Oven:	Natural gas fired (1.9 mmBTU/hr)
	One (1) Rotary Screen Printer	
	Maximum production capacity:	2,100 m ² /hr

APPLICABLE REGULATIONS:

1. Regulation 401 KAR 59:010, New process operations, applies to the particulate matter emissions.
2. Regulation 401 KAR 63:020, Potentially hazardous matter or toxic substances, applies to the formaldehyde emissions.

1. Operating Limits:

The fabric filter shall be controlling particulate emissions and operating properly in accordance with manufacturer's specifications and/or standard operating procedures at all times the K72 Fusible Paste Set is in operation.

2. Emission Limitations:

1. Pursuant to Regulation 401 KAR 59:010, Section 3.(2), emissions of particulate matter shall not exceed 2.34 lb/hr.
2. Pursuant to Regulation 401 KAR 59:010, Section 3.(1), the opacity of visible emissions shall not equal or exceed 20 percent.
3. See Group Requirements, Page 22.

Compliance Demonstration Method:

- a. Hourly Mass Emission Rate = [Monthly textile production rate x Emission factor listed in Kentucky Emissions Inventory / (Hours of operation per month)]
- b. Opacity Limit - During periods of normal operation, no compliance demonstration is necessary. During periods of startup, shutdown, or malfunction of the K72 Set, the permittee shall determine compliance through maintenance of the records required by Item 4 under Specific Recordkeeping Requirements below.

3. Testing Requirements:

Pursuant to Regulations 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in Regulation 401 KAR 50:015 shall be conducted as required by the Division.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

K6 (18)

K72 Fusible Paste Set

(Continued)

4. Specific Monitoring Requirements:

1. The permittee shall install, calibrate, maintain, and operate according to manufacturer's specification a monitoring device for the continuous measurement of the pressure drop across the fabric filter.
2. The permittee shall record the pressure drop across the fabric filter once per calendar day.
3. The permittee shall perform a weekly inspection of the fabric filter to ensure that there are no broken/torn bags.

5. Specific Recordkeeping Requirements:

The permittee shall maintain records of the following information:

1. The monthly production rate and formulation of each type of textile produced at the K72 Set.
2. The monthly hours of operation (hours operated/month) of the K72 Set.
3. A log of the following actions with the name or initials of the operator performing the action:
 - a. Daily monitoring of the pressure drop across the fabric filter.
 - b. Weekly inspection of the fabric filter.
 - c. All routine and non-routine maintenance activities at the fabric filter.
4. During periods of startup, shutdown or malfunction of the K72 Set, a daily (calendar day) log of the following information shall be kept:
 - i. Whether any air emissions were visible from the K72 Set stack.
 - ii. Whether the visible emission were normal for the process.
 - iii. The color of the emissions and whether the emissions were light or heavy.
 - iv. The cause of the abnormal visible emissions.
 - v. Any corrective actions taken.

6. Reporting Requirements:

None

7. Specific Control Equipment Operating Conditions:

None

8. State-Origin Requirements:

None

a. Operating Limitations:

None

b. Emission Limitations:

None

9. Alternate Operating Scenarios:

None

10. Compliance Schedule:

N/A

11. Compliance Certification Requirements:

N/A

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

K7 (19)	K73 Roto Gravure Hot Melt Set - One (1) Hot Melt Printer Laminator One (1) Hot Melt Applicator Maximum production capacity:	Equipped with fiberglass fabric filter or equivalent 8,600 m ² /hr
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APPLICABLE REGULATIONS:

Regulation 401 KAR 59:010, New process operations, applies to the particulate matter emissions.

1. Operating Limits:

The fabric filter shall be controlling particulate emissions and operating properly in accordance with manufacturer's specifications and/or standard operating procedures at all times the K73 Roto Gravure Hot Melt Set is in operation.

2. Emission Limitations:

1. Pursuant to Regulation 401 KAR 59:010, Section 3.(2), emissions of particulate matter shall not exceed 2.34 lb/hr.
2. Pursuant to Regulation 401 KAR 59:010, Section 3.(1), the opacity of visible emissions shall not equal or exceed 20 percent.

Compliance Demonstration Method:

- a. Hourly Mass Emission Rate = [Monthly textile production rate x Emission factor listed in Kentucky Emissions Inventory / (Hours of operation per month)]
- b. Opacity Limit - During periods of normal operation, no compliance demonstration is necessary. During periods of startup, shutdown, or malfunction of the K72 Set, the permittee shall determine compliance through maintenance of the records required by Item 4 under Specific Recordkeeping Requirements below.

3. Testing Requirements:

Pursuant to Regulations 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in Regulation 401 KAR 50:015 shall be conducted as required by the Division.

4. Specific Monitoring Requirements:

1. The permittee shall install, calibrate, maintain, and operate according to manufacturer's specification a monitoring device for the continuous measurement of the pressure drop across the fabric filter.
2. The permittee shall record the pressure drop across the fabric filter once per day.
3. The permittee shall perform a weekly inspection of the fabric filter to ensure that there are no broken/torn bags.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

K7 (19)

K73 Roto Gravure Hot Melt Set

(Continued)

5. Specific Recordkeeping Requirements:

The permittee shall maintain records of the following information:

1. The monthly production rate and formulation of each type of textile produced at the K73 Set.
2. The monthly hours of operation (hours operated/month) of the K73 Set.
3. A log of the following actions with the name or initials of the operator performing the action:
 - a. Daily monitoring of the pressure drop across the fabric filter.
 - b. Weekly inspection of the fabric filter.
 - c. All routine and non-routine maintenance activities at the fabric filter.
4. During periods of startup, shutdown or malfunction of the K73 Set, a daily (calendar day) log of the following information shall be kept:
 - i. Whether any air emissions were visible from the K73 Set stack.
 - ii. Whether the visible emission were normal for the process.
 - iii. The color of the emissions and whether the emissions were light or heavy.
 - iv. The cause of the abnormal visible emissions.
 - v. Any corrective actions taken.

6. Specific Reporting Requirements:

None

7. Specific Control Equipment Operating Conditions:

None

8. State-Origin Requirements:

None

a. Operating Limitations:

None

b. Emission Limitations:

None

9. Alternate Operating Scenarios:

None

10. Compliance Schedule:

N/A

11. Compliance Certification Requirements:

N/A

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

K8 (13 A, B, C)	PolyCarbonate (PC) Set -	Equipped with a dual carbon bed adsorption unit or equivalent
	One (1) PC Set Enclosure	
	One (1) Solvent Recovery System	
	Maximum production capacity:	2,300 m ² /hr

APPLICABLE REGULATIONS:

1. Regulation 401 KAR 59:010, New process operations, applies to the particulate matter emissions.
2. Regulation 401 KAR 63:020, Section 3, Potentially hazardous matter or toxic substances, applies to the methylene chloride emissions.

1. Operating Limitations:

1. The carbon bed adsorption unit shall be controlling methylene chloride (dichloromethane) emissions and operating properly in accordance with manufacturer's specifications and/or standard operating procedures at all times the PolyCarbonate Set is in operation. The unit shall be equipped with an automatic interlock or equivalent that will shut the PolyCarbonate Set down whenever the carbon bed adsorption unit is not in operation.
2. The emission monitor following the carbon adsorption unit shall be continuously monitoring the total hydrocarbon concentration (THC) in the exhaust from the carbon adsorption unit. The monitor shall be operating properly in accordance with manufacturer's specifications and/or standard operating procedures at all times the PolyCarbonate Set is in operation.
3. The carbon bed adsorption unit shall be operated on a regular program of steam regeneration. When one carbon bed is being regenerated, the PolyCarbonate Set exhaust shall be routed through the other carbon bed.
4. Following carbon bed regeneration, the steam used in the regeneration shall be collected and condensed. Methylene chloride shall be separated from the condensed steam and recovered as liquid.

2. Emission Limitations:

1. Pursuant to Regulation 401 KAR 59:010, Section 3.(2), emissions of particulate matter shall not exceed 2.34 lb/hr.
2. Pursuant to Regulation 401 KAR 59:010, Section 3.(1), the opacity of visible emissions shall not equal or exceed 20 percent.
3. Pursuant to Regulation 401 KAR 63:020, Section 3, emissions of methylene chloride shall be vented through the carbon bed adsorption system at all times the PolyCarbonate Set is in operation.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

K8 (13 A, B, C) PolyCarbonate (PC) Set

(Continued)

Compliance Demonstration Method:

- a. Hourly Mass Emission Rate = [Monthly textile production rate x Emission factor listed in Kentucky Emissions Inventory / (Hours of operation per month)]
- b. Opacity Limit - During periods of normal operation, no compliance demonstration is necessary. During periods of startup, shutdown, or malfunction of the PC Set, the permittee shall determine compliance through maintenance of the records required by Item 4 under Specific Recordkeeping Requirements below.

3. Testing Requirements:

1. Pursuant to Regulations 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in Regulation 401 KAR 50:015 shall be conducted as required by the Division.
2. The permittee shall develop and implement a QA (quality assurance) program in accordance with the quality assurance / quality control / calibration procedures described in 40 CFR 60, Appendix F to maintain the continuous emissions monitor for THC on the PolyCarbonate Set.

4. Specific Monitoring Requirements:

The permittee shall install, calibrate, maintain, and operate according to manufacturer's specification an emissions monitor for the continuous measurement of the total hydrocarbon (THC) concentration in the exhaust stream from the carbon adsorption unit on the PolyCarbonate Set. The readings from the monitor shall be correlated to the concentration of methylene chloride in the exhaust stream.

5. Specific Recordkeeping Requirements:

The permittee shall maintain records of the following information:

1. The monthly production rate and formulation of each type of textile produced at the PolyCarbonate Set.
2. The monthly hours of operation (hours operated/month) of the PolyCarbonate Set.
3. Continuous records of the total hydrocarbon (THC) concentration in the exhaust stream from the carbon beds. The concentration shall be recorded on a strip chart recorder or equivalent. The correlation between the total hydrocarbon concentration and methylene chloride emissions shall also be maintained on plant records.
4. During periods of startup, shutdown or malfunction of the PC Set, a daily (calendar day) log of the following information shall be kept:
 - i. Whether any air emissions were visible from the PC Set stack.
 - ii. Whether the visible emission were normal for the process.
 - iii. The color of the emissions and whether the emissions were light or heavy.
 - iv. The cause of the abnormal visible emissions.
 - v. Any corrective actions taken.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

K8 (13 A, B, C) PolyCarbonate (PC) Set

(Continued)

6. Specific Reporting Requirements:

The permittee shall submit to the Division a copy of the maintenance program for the THC continuous emission monitor on the PolyCarbonate Set.

7. Specific Control Equipment Operating Conditions:

None

8. State-Origin Requirements:

None

a. Operating Limitations:

None

b. Emission Limitations:

None

9. Alternate Operating Scenarios:

None

10. Compliance Schedule:

N/A

11. Compliance Certification Requirements:

N/A

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

GROUP Requirements (This section addresses requirements that apply to any groups of affected facilities. There is only one group requirement for this plant: plantwide emissions of formaldehyde were subject to a Reasonably Available Control Technology requirement under Regulation 401 KAR 63:021. RACT for formaldehyde was determined to be a plantwide emission limit with no controls and applies to all the affected facilities that are sources of formaldehyde.)

LIST OF POINTS:	K1	(2A, 2B, 5)	K1 Forming Set
	K2	(2)	K2 Forming Set
	K3	(4)	K3 Forming Set
	K5	(6)	K71 Powder Set
	K6	(18)	K72 Fusible Paste Set

APPLICABLE REGULATIONS:

Regulation 401 KAR 63:020, Potentially hazardous matter or toxic substances, applies to the formaldehyde emissions from each of the affected facilities listed above.

1. Operating Limitations:

See specific operating limitations under individual emissions point listing.

2. Emission Limitations:

Pursuant to Regulation 401 KAR 63:020, Section 3, plant-wide emissions of formaldehyde shall not exceed 1.79 lb/hr.

Compliance Demonstration Method:

$$\text{Plantwide Hourly Emission Rate} = \sum (P_i \times E_i / H_i)$$

where P_i = Monthly textile production rate at each set
 E_i = Emission factor listed in Kentucky Emissions Inventory for each set
 H_i = Hours of operation per month of each set
i corresponds to the sets K1, K2, K3, K71, and K72.

3. Testing Requirements:

Pursuant to Regulations 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in Regulation 401 KAR 50:015 shall be conducted as required by the Division.

4. Specific Monitoring Requirements:

See specific monitoring requirements for each set under individual emissions point listing.

5. Specific Recordkeeping Requirements:

See specific reporting requirements for each set under individual emissions point listing.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

GROUP Requirements

(Continued)

- | | |
|-------------------------------------------------------------------|------|
| 6. <u>Specific Reporting Requirements:</u> | None |
| 7. <u>Specific Control Equipment Operating Conditions:</u> | None |
| 8. <u>State-Origin Requirements:</u> | None |
| a. <u>Operating Limitations:</u> | None |
| b. <u>Emission Limitations:</u> | None |
| 9. <u>Alternate Operating Scenarios:</u> | None |
| 10. <u>Compliance Schedule:</u> | N/A |
| 11. <u>Compliance Certification Requirements:</u> | N/A |

SECTION C - INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to Regulation 401 KAR 50:035, Section 5(4).

<u>Description</u>	<u>Applicable Regulation</u>
1. Alkota Heating Unit [Steam Cleaning Unit (SC-1)] (< 1.0 mmBTU/hr)	401 KAR 61:015
2. Hot Water Heater, Building 1 (< 1.0 mmBTU/hr)	401 KAR 61:015
3. Beringer Jet Cleaner (< 1.0 mmBTU/hr)	401 KAR 61:015
4. Laboratory Fume Hood	401 KAR 59:010
5. PC Set Sump Pit Exhaust	401 KAR 59:010
6. Shipping Area Natural Gas Fired Boiler (< 1.0 mmBTU/hr)	401 KAR 61:015
7. Chemical Mixing Area	401 KAR 59:010
8. Mold Injection Unit, Building 2	401 KAR 59:010
9. R&D Dry Cleaning Unit	None

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS

Not applicable - See individual emission point listing under Section B for specific requirements.

SECTION E - CONTROL EQUIPMENT CONDITIONS

1. Pursuant to 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the cabinet which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS

1. When continuing compliance is demonstrated by periodic testing or instrumental monitoring, the permittee shall compile records of required monitoring information that include:
 - a) Date, place as defined in this permit, and time of sampling or measurements.
 - b) Analyses performance dates;
 - c) Company or entity that performed analyses;
 - d) Analytical techniques or methods used;
 - e) Analyses results; and
 - f) Operating conditions during time of sampling or measurement;
2. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained at the source authorized by this permit for a period of five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality.

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

3. The permittee shall allow the Cabinet or authorized representatives to perform the following:
 - a) Enter upon the premises where a source is located or emissions-related activity is conducted, or where records are kept;
 - b) Have access to and copy, at reasonable times, any records required by the permit:
 - i) During normal office hours, and
 - ii) During periods of emergency when prompt access to records is essential to proper assessment by the Cabinet;
 - c) Inspect, at reasonable times, any facilities, equipment (including monitoring and pollution control equipment), practices, or operations required by the permit. Reasonable times shall include, but are not limited to the following:
 - i) During all hours of operation at the source,
 - ii) For all sources operated intermittently, during all hours of operation at the source and the hours between 8:00 a.m. and 4:30 p.m., Monday through Friday, excluding holidays, and
 - iii) During an emergency; and
 - d) Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements. Reasonable times shall include, but are not limited to the following:
 - i) During all hours of operation at the source,
 - ii) For all sources operated intermittently, during all hours of operation at the source and the hours between 8:00 a.m. and 4:30 p.m., Monday through Friday, excluding holidays, and
 - iii) During an emergency.
4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.
5. Records of any monitoring required by this permit, other than continuous emission or opacity monitors, shall be reported to the Division's Paducah Regional Office no later than the six-month anniversary date of this permit and every six months thereafter during the life of this permit, unless otherwise stated in this permit. Data from the continuous emission and opacity monitors shall be reported to the Director in accordance with the requirements of Regulation 401 KAR 59:005, General Provisions, Section 3(3). All reports shall be certified by a responsible official pursuant to Section 6(1) of Regulation 401 KAR 50:035, Permits. All deviations from permit requirements shall be clearly identified in the reports.
6. The owner or operator shall notify the Division for Air Quality's Paducah Regional Office by telephone as promptly as possible any deviation from permit requirements, including those due to malfunctions, unplanned shutdowns, ensuing startups, or upset conditions. In accordance with Regulation 401 KAR 50:055, Section 1, the reports shall describe the probable cause of the deviations and corrective actions or preventive measures taken.

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

7. Emissions monitoring, analytical procedures, test methods, and averaging procedures shall be performed in accordance with 401 KAR 50:035, Section 7(1)(c), to demonstrate continuing compliance with applicable requirements.
8. The permittee shall certify compliance within 30 days after the anniversary date of permit issuance with the terms and conditions contained in this permit, including emission limitations and standards and work practices, to the Division for Air Quality's Paducah Regional Office and the U.S. EPA in accordance with the following requirements:
 - a) Identification of each term or condition of the permit that is the basis of the certification;
 - b) The compliance status regarding each term or condition of the permit;
 - c) Whether compliance was continuous or intermittent; and
 - d) The method used for determining the compliance status for the source, currently and over the reporting period, pursuant to 401 KAR 50:035, Section 7(1)(c),(d), and (e)..

Note 1: The permitting authority may require other facts beyond items a) - d) of Condition #8 to determine the compliance status of the source, pursuant to 401 KAR 50:035, Section 7(2)(d).

Note 2: Instrumental or non instrumental monitoring, which may consist of record keeping, may be performed in addition to or in lieu of periodic testing to the extent necessary to yield reliable data for the purposes of demonstration of continuing compliance with the conditions of this permit.

SECTION G - GENERAL CONDITIONS

(a) General Compliance Requirements

1. The permittee shall comply with all conditions of this permit. Noncompliance shall be (a) violation(s) of state regulation 401 KAR 50:035, Permits, Section 7(3)(d) and for federally enforceable permits is also a violation of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) and is grounds for enforcement action including but not limited to the termination, revocation and reissuance, or revision of this permit.
2. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition.

SECTION G - GENERAL CONDITIONS (CONTINUED)

3. This permit may be revised, revoked, reopened and reissued, or terminated for cause. The permit will be reopened for cause and revised accordingly under the following circumstances:
 - a) If additional requirements become applicable to the source and the remaining permit term is three (3) years or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to Regulation 401 KAR 50:035, Section 12(2)(c)3;
 - b) The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or
 - c) The Cabinet or the U. S. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the Division, at least thirty (30) days in advance of the date the permit is to be reopened, except that the Division may provide a shorter time period in the case of an emergency.

4. The permittee shall furnish to the Division, in writing, information that the Division may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit.
5. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the permitting authority. The permittee shall also provide additional information as necessary to address any requirement that becomes applicable to the source after the date a complete permit application was submitted but prior to the release of the draft permit.
6. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit.
7. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance.
8. Except as identified as state-origin requirements in this permit, all terms and conditions contained herein shall be enforceable by the United States Environmental Protection Agency and citizens of the United States.
9. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within 90 days after the date of notice as specified in 401 KAR 50:038, Section 3(6).

SECTION G - GENERAL CONDITIONS (CONTINUED)

10. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance.
11. This permit shall not convey property rights or exclusive privileges.
12. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Kentucky Cabinet for Natural Resources and Environmental Protection or any other federal, state, or local agency.
13. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry.
14. Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders.
15. Permit Shield: Except as provided in 401 KAR 50:035, compliance by the affected facilities listed herein with the conditions of this permit shall be deemed compliance with the specifically identified applicable requirements as of the date of issuance of this permit.

(b) Permit Expiration and Reapplication Requirements

1. This permit shall remain in effect for a fixed term of five (5) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted pursuant to 401 KAR 50:035 Section 3(1)(a). If a timely and complete application is submitted, then all the terms and conditions of this permit, including any permit shield shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division.

(c) Permit Revisions

1. A permit revision shall not be required for changes which are explicitly authorized by the conditions of this permit.
2. A permit revision shall not be required for changes that are part of an approved economic incentive, marketable permit, emission trading, or other similar program or process which is specifically provided for in this permit.
3. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority thirty (30) days in advance of the transfer.

SECTION G - GENERAL CONDITIONS (CONTINUED)

(d) Emergency Provisions

1. An emergency shall constitute an affirmative defense to an action brought for noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or other relevant evidence that:
 - i) An emergency occurred and the permittee can identify the cause of the emergency;
 - ii) The permitted facility was at the time being properly operated;
 - iii) During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and,
 - iv) The permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division within two working days after the time when emission limitations were exceeded due to the emergency. The notice shall meet the requirements of 401 KAR 50:035, Permits, Section 7(1)(e), and include a description of the emergency, steps taken to mitigate emissions, and the corrective actions taken. This requirement does not relieve the source of any other local, state or federal notification requirements.
2. Emergency conditions listed in General Condition (d)1 above are in addition to any emergency or upset provision(s) contained in an applicable requirement.
3. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof.

(e) Ozone depleting substances

1. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
 - a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
 - c. Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
 - d. Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.166.
 - e. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.

SECTION G - GENERAL CONDITIONS (CONTINUED)

- f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.
2. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

SECTION H - ALTERNATE OPERATING SCENARIOS

Not applicable

SECTION I - COMPLIANCE SCHEDULE

Not applicable